



Name _____ Class _____ 8th grade science

Collisions

Question: How do the masses of colliding objects change the results of collisions?

Introduction

You are going to carry out the colliding marble experiment on page 539 of the textbook and then use Newton's Laws to explain what you see happen.

Results

| Procedure number | Diagram of motion at the start | Diagram of motion at the end |
|------------------|--------------------------------|------------------------------|
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |

How do the results relate to Newton's Laws?

1st Law: _____

2nd Law: _____

3rd Law: _____

Extension: (do this in your exercise book)

In this activity you are going to use what you have found out about colliding marbles to plan, predict and explain a crash scenario with model cars.

1. Decide on your scenario and draw a diagram of this in your exercise book.
2. Draw a diagram showing the direction and relative speed you predict the cars will move in after the crash.
3. Test your prediction and record your results.
4. Write down at least three ways that real cars are adapted to reduce the impact of collisions.
5. Research one of these and write notes about it.